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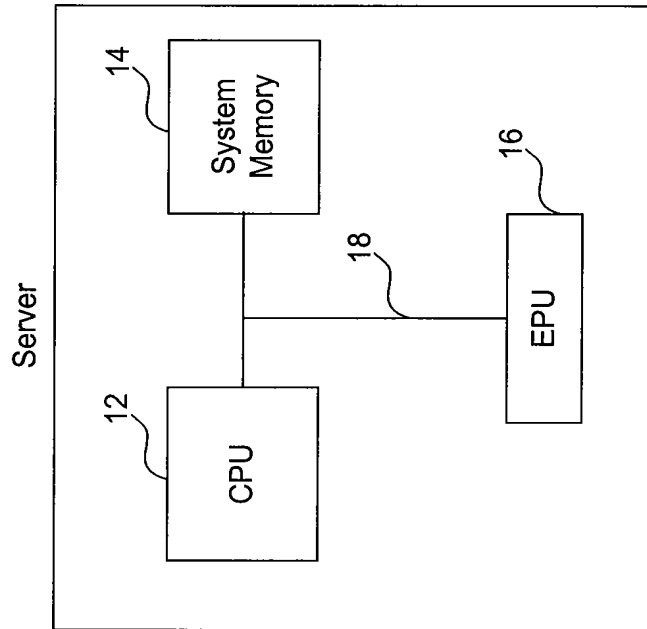
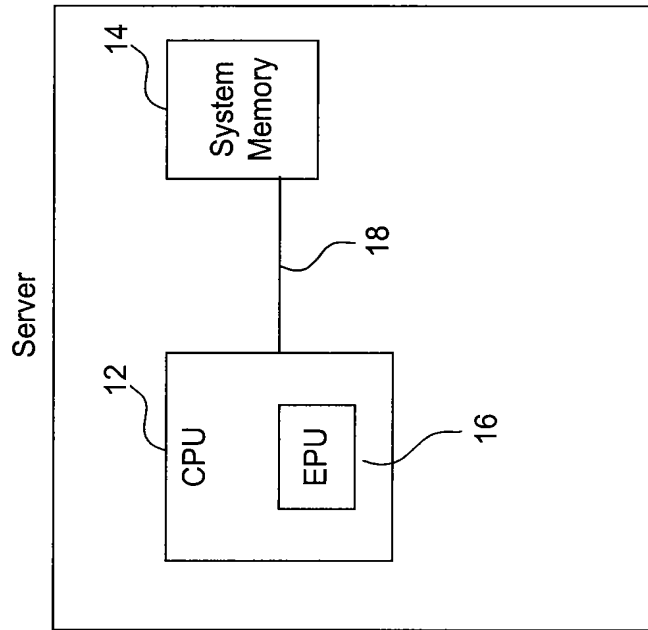
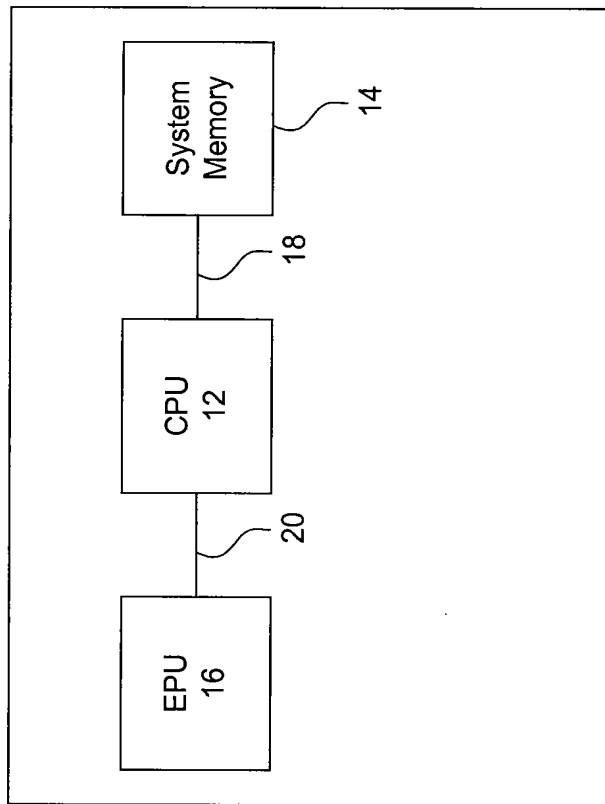


FIG. 1A

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**FIG. 1B**



**FIG. 1C**

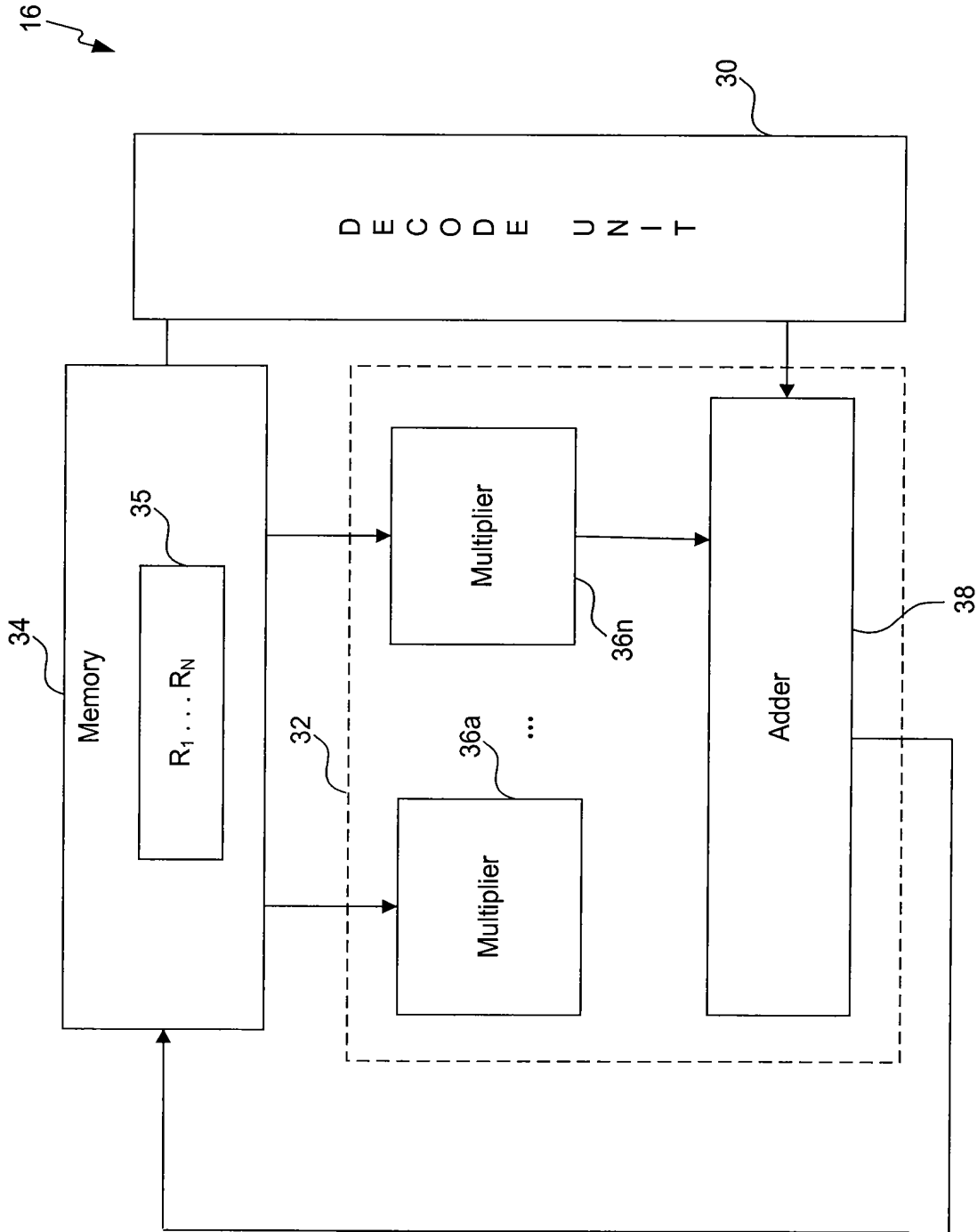


FIG. 2

<u>Product Operation</u>	
$\begin{array}{r} a_1 a_0 \\ b_1 b_0 \\ \hline \end{array}$	
Cycle One	
<div>Instruction</div> <div>MULT R1 <math>a_1, b_1</math> <math>a_0, b_0</math></div>	<div>Description</div> <div><math>a_1 b_1</math> and <math>a_0 b_0</math> are simultaneously multiplied and the result is stored in Register R1</div>
Cycle Two	
<div>MAC R2 (<math>a_1, b_0</math>), R1</div>	<div><math>a_1 b_0</math> are multiplied and the product is added with the contents of R1 and stored in R2</div>
Cycle Three	
<div>MAC R3 (<math>b_1, a_0</math>), R2</div>	<div><math>a_0 b_1</math> are multiplied and the product is added with the contents of R2 and stored in R3</div>

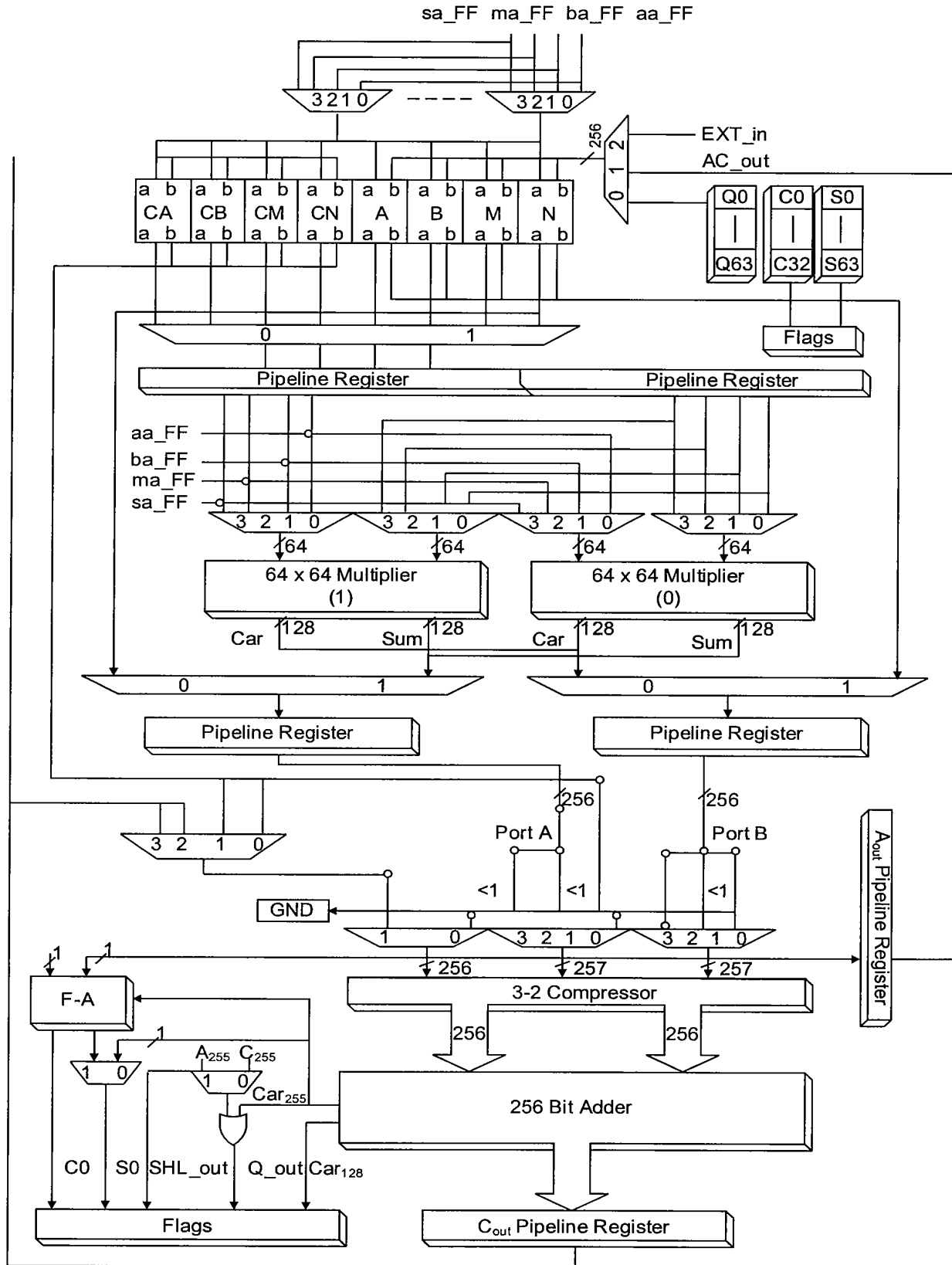
FIG. 3

Square Operation

$$\begin{array}{r} a_1 a_0 \\ a_1 a_0 \\ \hline a_1 a_1 a_0 a_0 \\ 2a_1 a_0 \end{array}$$

		<u>Description</u>	
Cycle One	<u>Instruction</u>	MULT R1 $a_1, a_1 a_0, a_0$	
		$a_1 a_1$ and $a_0 a_0$ are multiplied and stored in Register R1	
Cycle Two		$a_1 a_0$ , are multiplied and shifted by one and then added to the contents of R1. The result is stored in R2	
	<u>Instruction</u>	MAC 2X R2 ( $a_1, a_0$ ), R1	

FIG. 4



**FIG. 5**